

## **REMARKS**

### **Rejection of claims 1, 3, 6, and 10-12 under 35 U.S.C. §103(a)**

The Examiner rejected claims 1, 3, 6, and 10-12 under 35 U.S.C. §103(a) as being obvious over Whaley *et al.*, “Compositional Pointer and Escape Analysis for Java Programs” . Applicant traverses the Examiner’s finding of obviousness of the claims as amended.

### **Claim 1**

Claim 1 is amended herein to further clarify that the object allocation mechanism allocates at least one object to an invocation stack frame for a method that allocates the object prior to compilation of the second compilation unit. The cited art does not teach or suggest to allocate to the stack prior to a definite determination that an object does not escape. In other words, the prior art can only allocate to the invocation stack frame if compilation of all compilation units is complete. In contrast, in the claimed invention, the allocation to the stack is made “based on information available from classes visible in the first compilation unit but not visible in the uncompiled second compilation unit” and “prior to compilation of the second compilation unit.” This means that the present invention makes an optimistic assumption that the object does not escape and places it on the stack even before the second compilation unit is compiled. Later if the assumption is found to be incorrect it can be changed to the heap. In the prior art, an object was assumed to escape prior to compilation of all compilation units. In Whaley, an object was placed on the stack if it did not escape, meaning that all compilation units have been compiled and analyzed, and it is then determined that the object did not escape. In Whaley, as in the other prior art, if an object was not yet determinable whether it escaped or not, it would be placed in the heap.

The claimed feature of allocating to the stack prior to compilation of the second compilation unit is not taught or suggested by Whaley. Similarly, Choi does not label the objects until a determination is made whether the object escapes or not, which requires compilation of all compilation units. Applicants respectfully assert claim 1 is in condition for allowance. Since the cited art does not teach or suggest the invention as claimed, applicants respectfully request reconsideration of the Examiner's rejection of claim 1 under 35 U.S.C. §103(a).

### Claim 3

Claim 3 depends on independent claim 1 amended as described above, which is allowable for the reasons given above. As a result, claim 3 is allowable as depending on an allowable independent claim. Further, with regard to claim 3, the Examiner states that Whaley 7.1 teaches "marking a new instruction ... based on information .. that are visible in a specified classpath." Applicant can find no such teaching in the cited text. A specified classpath can be one specified by the user as described on page 20 of the specification. Applicants believe claim 3 is in condition for allowance. Reconsideration is respectfully requested

### Claim 6

Claim 6 was amended in a similar manner as described for claim 1. The arguments above with respect to claim 1 are incorporated here. In claim 6, the escape mechanism is functioning on the first compilation unit prior to compiling the second compilation unit. The cited art does not teach or suggest claim 6 as amended. Further, with regard to claim 7, the Examiner cites 2.1, 2.2 and 7.1 for the teaching "marking a new instruction ... based on information .. that are visible in a specified classpath." Applicant can find no such teaching in the cited text. A specified classpath can be one specified by the user as described on page 20 of the specification. Applicants believe

claim 6 as amended is now in condition for allowance. Reconsideration is respectfully requested.

#### Claim 10

Claim 10 was amended in the same manner as described for claim 1 and the rationale for claim 1 is incorporated here. As a result, claim 10 is allowable under the same rationale as set forth for claim 1. Applicants believe claim 10 as amended is now in condition for allowance. Reconsideration is respectfully requested.

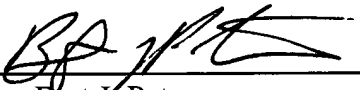
#### Claims 4, 5, 8, 9, 15 and 16

Claims 4, 5, 9 and 16 were allowed by the examiner. Claims 8 and 15 were objected to, but would be allowable if properly rewritten in independent form. Claim 8 depends on claim 6, which is allowable for the reasons given above. Claim 15 depends on claim 10, which is allowable for the reasons given above. As a result, claims 8 and 15 are allowable as depending on allowable independent claims.

Conclusion

In summary, none of the cited prior art, either alone or in combination, teach, support, or suggest the unique combination of features in applicant's claims presently on file. Therefore, applicant respectfully asserts that all of applicant's claims are allowable. Such allowance at an early date is respectfully requested. The Examiner is invited to telephone the undersigned if this would in any way advance the prosecution of this case.

Respectfully submitted,

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